

BAYEV, V. K.
//FIZIKA GORENIYA I VZRYVA//
--/-/1974, V0010, N----,
Calculation of the ignition and combustion of a hydrogen
jet in air at finite chemical-reaction rates,
pp 65-74, JAN-Feb 1974, NASA TT F 15, 88484

Vernov, S. N.

Physical Characteristics of Interplanetary Space
FIZICHESKAYA Kharakteristika Mezoplanetnogo Prostranstva
vol. 1, Part 1, Chapter 2, of JOINT SOVIET-AMERICAN
WORK, OSNOVY KOSMICHESKOY BIOLOGII I MEDITSINY
(FOUNDATIONS OF SPACE BIOLOGY AND MEDICINE), MOSCOW,
ACADEMY OF SCIENCES USSR, 1973, 149 pp plus figures
*NASA TT F-15,280

VSEKHSVYATSKIY, S. K.
//FIZICHESKIYE KCHARAKTERISTIKI KOMET 1965-1970//
--/1974,V----,N----,
Physical Characteristics of Comets of the Years
1965-1970, 112 pp,
*NASA TT F-15758@

Study of the Dynamics of Salt Transfer
in Porous Media, by V. V. Buchinskii,
Chia Te-Ling, et al., 21, p.
RUDN, per, Fizika i Khimiya, Vol 2,
No 45, 1962, pp 165-183.
GTS-TT 64-11085

Sci= 3/11
May 65

278,696

KULSKII, L. A.
//FIZIKO-KHIMICHESKAYA MIGRANIKA I LILOFIINOST DTS-
PERSINKI SISTEM//
--/-/1971, V----, NO002,
The Effect of Flocculating Agents on Calcium Sulfate
Crystallization,
pp 201-207, NTC 74-11215-07486

FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV

SOVIET MATERIALS SCIENCE

COVER TO COVER CONSULTNATS BUREAU

BEGAN WITH 1965 ISSUES

Pogoretskiy, R.G.

The Effect of the Size Effect and Stress Concentrators on the Fatigue Strength of Steel in Corrosive Medium.

FIZ. KHM. MTKH. MAT., 1967, Vol.3, No.6, pp.671
670.

BISI 11930

Mikheev, A.A.

Effect of transition zone on mechanical
properties of high-strength clad steel.

FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,

1971, pp 11-14, n. 4.

NTC 73-12179-11F.

NLL INC 746-1323.

Krut, Yu. Yu.

Some characteristics of the cavitation
erosion of metals in liquid oxygen.

FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
1969, pp 214-217, v. 5, n. 2.
NTC 73-12092-11F.

NTIS N72-17503.

Certain Features of the Interaction of a Laser
Beam with Metals, by G. V. Plyatsko.
FIZ-KHIM MEKH MATERIALOV, No 3, 1971, pp 50-53.
NAVY/APL/JHU-T-2698

May 73

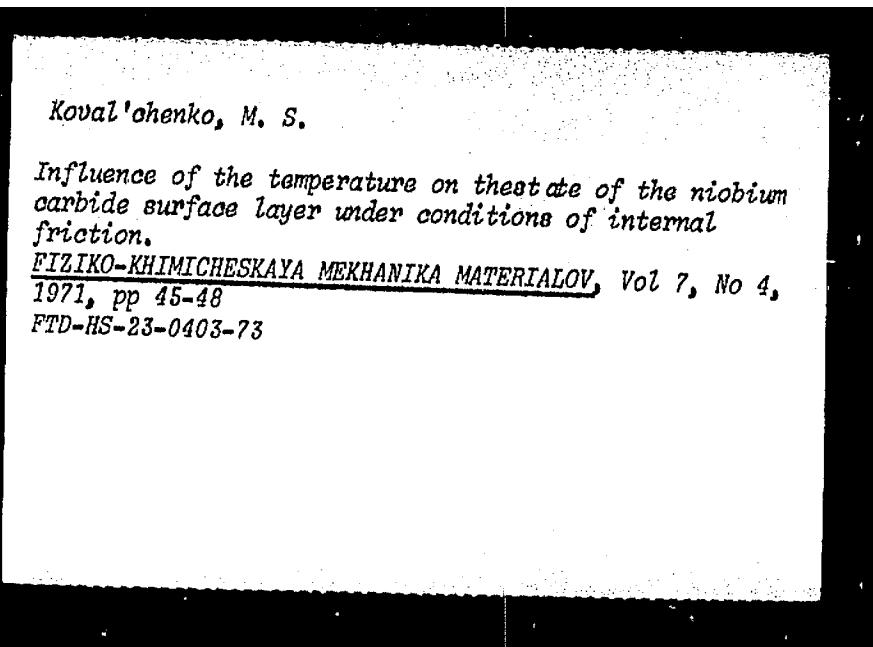
Pliatsko, G. V.

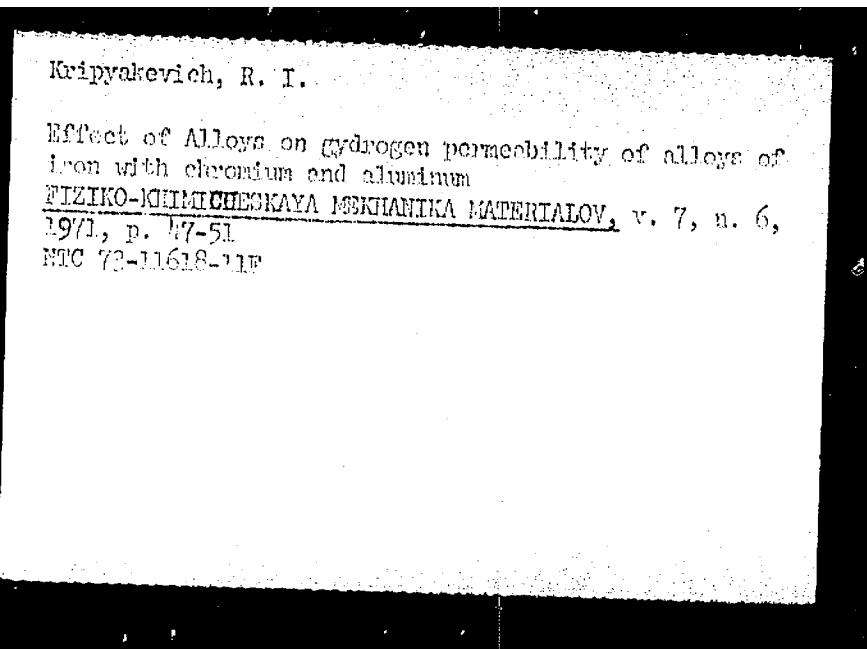
On the Influence of the Stress State on the
Character of Rupture of Transparent Polymers by
a Laser Beam.

Fiziko-Khimicheskaya Mekhanika Materialov, No 4
Vol 5, 1969.
FSTC-HT-23-12-72

Samsonov, G. V.

Temperature dependence of the friction coefficient of
some high melting carbides,
FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV, Vol 7, No 3,
1971, pp 94-96
FTD-HS-23-0404-73





Yanchishin, F. P.

Kinetics of deformation of pre-stressed 18-10
Ti steel during stretching at elevated tem-
peratures.

FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
Vol 8, No 1, p. 3-7, 1972
HB-8832

may 73

DERYABINA, V. I.
//FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV//
--/-1972, V0008, N0003,
The Effect of Hydrogen on the Properties of Steel.
Determination of the Properties of Steel by Rapid
Tensile Fracture in Hydrogen at High Temperatures
and Pressures,
PP 71-74, NTC 74-10358-11M@2

Krishtal, M.A.

Effect of repeated tempering on the
corrosion cracking of reinforcing bars
after high-temperature thermomechanical
treatment.

FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
1972, pp 47-50, v. 8, n. 4.
HB-8975.

Vereshchagin, K. I. et al.

Corrosion Cracking in certain Low-Alloy Steels when
used in Petrochemical Equipment

FIZIKO -KHIIM. MEKH. MAT., vol. 8, no. 1, 1972,
pp. 90-91
(HB Trans-395)

Effect of a Thermo-Vibrational Treatment on the Physical
and Mechanical Properties of a WC-8% Co Sintered
Carbide, by V. I. Tumanov.
FIZIKO-KHIM. MEKH. MAT., Vol 8, 1972, No 1, pp 66-68.
HB-8888

April 73

Vereshchagin, K. I.

Corrosion Cracking in Certain Low-Alloy
Steels when used in Petro-Chemical Equipment.
FIXIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
Vol 8, No. 1, p. 90-91, 1972
HB-8854

may 73

Genel, V. A.

Corrosion of Chromized Steel in a Solution
of Nitric Acid Salts.
FIZZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
Vol 8, No 1, p. 93-95, 1972
HB-8856

may 73

Mindyuk, A. K.

Permeability of electroplated steel to
hydrogen.
FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
Vol 8, No. 1, p. 99-100, 1972
HB-8858

may 73

Sapiro, V. S.

On the effusion of hydrogen from hot-rolled steel.
FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV, Vol 8,
No 1, p. 100-101, 1972
HB-8859

may 73

Romaniv, A. N.

Small-cycle fatigue of 13% chromium steel
in gaseous hydrogen.
FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
Vol 8, No. 1, p. 102-104, 1972
HB-8860

may 73

Ponomarenko, E. P.

Improvement of the erosion-corrosion
resistance of steel by spray coating and
surface impregnation under vacuum.
FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,

Vol 8, No. 1, p. 111-112, 1972
HB-8861

may 73

Agency: Picatinny Arsenal
Req. 74-61 d

7244 /14.2c

10/66; 16.74

WUR!!!
Title: Investigation of the Properties of Filled
Teflon.

Source: Fiziko-Khimicheskaiia Mekhanika Materialov,
V. 8, No. 2 (1972), pp. 49-52.

Language: Russian

Type single space, paste-up, camera ready copy.

Author: I.M. FEDOROVICH, T.I. BELYAKOV et al

Burykina, A. L.

Search for Materials, Stable in Contact
with Iron Powder and Rolling-Mill Scale
During Reduction of the Latter
FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV,
Vol 8, No 2, pp 109-111, 1972
HB-3886

may 73

NON-ELASTIC PHENOMENA OF METAL FATIGUE

as a file *pl. b6*

SHEVELYA, V., O LANGUAGE-RU COUNTRY-UR

FIZIKO-KHIMICH. MEKHANIKA MATER., V. 8/#3, '7
2, AKAD. NAUK UKR.SSR, 7-12

IFSTC-HT-23-0535-74

Fracture Toughness as a Characteristic of the Reliability of Materials in Service, by O. N. Romaniv and Yu. D. Petrina.

FIZIKO-KHIM. MEKH. MAT., Vol 8, 1972, No 3, pp 12-15.
HB-8891

April 73

Measurement of the Electrode Potential of Metals When
Removing Passivated Films From Them, by S. L. Milichenko.
FIZ.-Khim. MEKH. MAT., Vol 8, 1972, No 3, pp 15-17.
HB-8932

April 73

Kovalev, V.V. ET AL

Effect of the Degree of Strengthening and of
the Roughness of Bearing Surfaces on their
Rate of Wear and Reaction Force.

FIZ. KHIM MEKH. MAT., Vol.8, 1972, No.3, pp.
21-26.

HB 8892

Tsyapak, V.I.

Effect of Fretting Corrosion on the Fatigue
Strength of Type AISI 4340 Steel After Various
Case-Hardening Treatments.

FIZ. KHIM. MEKH. MAT, Vol.8, 1972, No.3, pp.21-
27.

*HB 9082

Romaniv, A. N.

Kinetics of low-cycle fatigue of steels in a
hydrogen atmosphere and under vacuum.

FIZ.-KHM. MEKH. MAT., vol. 8, 1972, #3,
pp. 75-80
HB 9047

may '73

Assessment of the Resistance of Steels to Stress
Corrosion Cracking, by K. I. Vereshchagin.
FIZ.-KHM. MEKH. MAT., Vol 8, 1972, No 4, pp 5-8.
HB-8920

April 73

REQ TR CHECK

14-08-73

T265

EFFECT OF SOME GALVANIC AND NON-METALLIC
COVERS ON THE STRENGTH OF MARTENSITIC
STAINLESS STEEL

KALICHAK, T.N.; POKHMURSKIY, V.I.

UR: FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV
VOL. 8, NO. 4, 1972, pp. 12-15*The following are**Revised on 2/22/73*

HS74-22-0265

Effect of Quality of Chromium Electrodeposits on the
Fatigue Strength of Steel, by V. T. Stepurenko.
FIZ.-KHM. MEKH. MAT., Vol 8, 1972, No 4, pp 15-18.
HB-8921

April 73

Investigation into the Structures and Physical Properties of Steel Surface-Alloyed with Aluminum, by
N. G. Shul'ga.
FIZ.-Khim. Mekh. Mat., Vol 8, 1972, No 4, pp18-21.
HB-8922

April 73

Kogan, R. L.

Factors governing the residual stresses in
boronized steel
FIZ.-Khim. MEKH. MAT., vol. 8, 1972, #4 pp. 21-24
HB 8923

May '73

24-Aug-73

Uncl (ORNL-tr--2691) Some laws governing the effect
of preloading under alternating tensile stresses on the
creep strength of CR--18 Ni--10 Ti steel. LYUTII, E.M.;
MAKSIMOVICH, G.G.; PAGIRNII, S.V. Translated from Fiz.
Khim. Mekh. Mater.; 8: No. 4, 32-35(1972). 6p. Dep.
NTIS \$3.00.

13 engineering; 11F metallurgy; translations
MV-25 P NSA

24-Aug-73
UncI (ORNL-tr--2692) Specific characteristics of
crack propagation during cyclic loading in liquid media.
ROMANOV, O.N.; PETRINA, YU.D.; ZIMA, YU.V. Translated
from Fiz.-Khim. Mekh. Mater.; 8; No. 4, 35-38(1972).
7p. Dep. NTIS \$3.00.

13 engineering; 11F metallurgy; translations
MN-25 P NSA

Rivkin, E. Yu.

Stress corrosion of welded joints in thin-walled tubing
FTZ.-Khim. Mekh. Mat., vol. 8, 1972, #1, pp. 42-44
HB 8973

May 73

Koval, V. P.

Effect of hydrogenation activators on the
cracking of carbon steels alloyed with rare-
earth metals.

FIZ.-KHM. MEKH. MAT., vol. 8, 1972, #4, pp 44-47
HB 8974

may 73

24-Aug-73
Uncl (ORNL-tr--2600) Rupture-resistance curves.
MOROZOV, F.M.; SAVUNOV, V.T. Translated from Fiz.-Khim.
Mekh. Mater., N, No. 4, 71-74(1972). 6p. Dep. NTIS
\$3.00.

13 engineering; 11 materials; translations
MM-25 P USA

REQ TR CHECK

14-08-73

T266

ON THE DURABILITY CRITERION IN FRETTING
CORROSION OF METALS
ALYAB'YEV, A YA; SHEVELYA, V V
UR: FIZIKO-KHIMICHESKAYA MEKHNIKA MATERIALOV
VOL. 8, NO. 2, 1972, pp. 111-114

C/C Tellerum Free

Process in as

4574-23-0266

Voznyi, T. D.

Effect of the Hydrostatic Pressure of the Medium on the
Long-Term Strength of Steel. 5 pp

FIZIKO-KHIMICHESKAYA MECHANIKA MATERIALOV, 8(5):

62-4 (1972)

AEC/TRANS-2710-73
ONRL

16-Aug-73

Unci (ORNL-tr--2706) Apparatus for testing the creep strength of metals in liquid media. KHITARISHVILI, M.G.; VASILENKO, I.I.; ZHAGALYAK, N.N.; MELEKHOV, R.K.; FILEVICH, M.I. Translated by Martha Gerrard (Oak Ridge National Lab., Tenn.) from Fiz.-Khim. Mekh. Mater.; 8: No. 5, 88-90(1972). 5p. Dep. NTIS \$3.00.

11F corrosion; 11F metallurgy; 14 methods and equipment; translations
MN-25 P NSA

Mits, Yu. K. et al.

Measurement of the Thickness of an Oil Film in
Sliding Contact of Machine Parts.

FIZ.-KHM. MEKH. MAT., Vol. 8, 1972,
No. 5, pp. 97-99.
HB 9022

Rubenchik, Yu. I.

Stress corrosion cracking of steel reduced by
inoculation with cerium
FIZ.-KHM. MEKH. MAT., vol. 8, 1972, #5 pp. 100-101
HB 9021

July '73

Ponomarenko, E.P. et al

Corrosion Fatigue of Steels with a Vapor-Phase
Vacuum-Deposited Chromium Coating.
FIZ. KHM MEKH. MAT., Vol.8, 1972, No.6,
pp.12-15.
HB 908.7

Kirievskii, B. A. et al

Effect of Additions of Rare-Earth Metals on the
Electrochemical Properties of Chromium- and
Chrome-Molybdenum-Alloyed Cast Irons.

FIZ.-KHM. MEKH. MAT., Vol. 8, 1972, No. 6,
pp. 16-18.
HB 9086

Ivanets, V.I. et al

Effect of Heat Treatment and Surface Work
Hardening on Normal Fatigue and Corrosion Fa-
tigue Strengths of Specimens with Inserts.
FIZ. KHM. MEKH. MAT', Vol.8, 1972, No. 6,
pp.19-21.
HB 9088

Tsypak, V.I.

Effect of Fretting Corrosion on the Fatigue
Strength of Type AISI 4340 Steel after Various
Case-Hardening Treatments.

FIZ. KHIM. MEKH. MAT., Vol.8, 1972, No.6, pp.
24-27.

HB 9082

RESISTANCE OF HIGH STRENGTH PLATED STEEL TO CORROSION CRACKING

SAVCHENKOV, E., LANGUAGE-RU COUNTRY-UR

FIZIKO-KHIMICH. MEKHANIKA MATERIALOV, 6-1972,
PP. 82-83

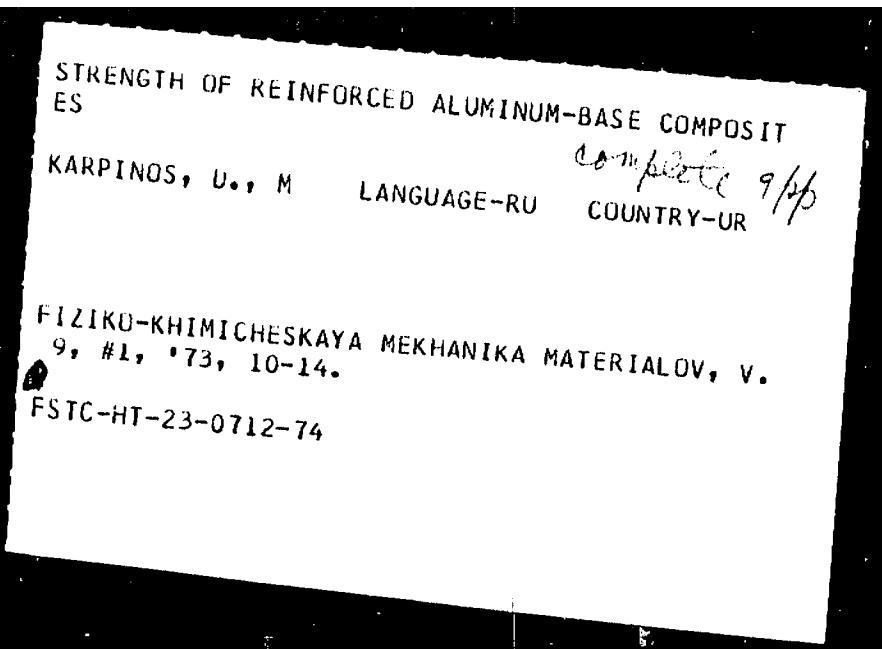
FSTC-HT-23-0417-74

FRACTURE MICROAPPEARANCE AND FRACTURE TOUGHNESS OF TEMPERED STEELS
ROMANIV, O., ZI

LANGUAGE-RU COUNTRY-UR

FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV, 1/
173, 3-8.

FSTC-HT-23-0713-74



Samsonov, G.V. et al

On the Mechanism of the Lubricating Action of
High-Melting Metal Sulfides and Selenides.
FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.1,
pp.58-61.
HB 9175

Khenkin, M. L. et al

Behavior of Metals and Alloys in the Micro-Flow
Region.

FIZ.-Khim. MEKH. MAT., Vol. 9, 1973, No. 2,
pp. 33-36.
UB 9101

Yanchishin, F. P. et al.

Effect of Grain Size on the Ordinary and the
Corrosion Fatigue Strength of Armco Iron.

FIZ.-KHM. MEKH. MAT., Vol. 9, 1973,
No. 2, pp. 101-102
HB 9139

Bezruchko, V.P. et al

Wear Resistance of Steels Improved by Diffusive Surface Treatments.

FIZ.-Khim. NEKH. MAT., Vol.9, 1973, No.2,
pp.108-109.

HB 9165

Kostetskii, B.I.

Relationship Between the Deformation Constituent of the Frictional Under the Influence of a Surface-Active Lubricant and the Crystal Structure of Materials.

FIZ. -KHIM. MEKH. MAT., Vol.9, 1973, No.2,
pp.110-111.
HB 9166

Yarema, S. Ya. et al

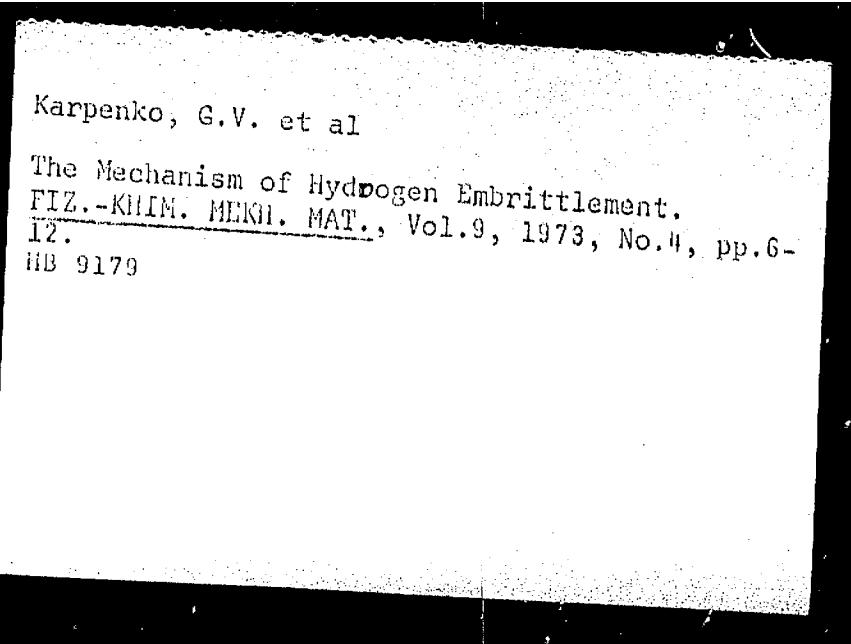
Dependence of the Rate of Propagation of Fatigue Cracks on the Degree of Vacuum.
FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.3,
pp.18-23.
HB 9227

Bezruchko, V.P. et al

Wear Resistance of Equipment Parts for Electrode Production Improved by Boronizing and Carburizing.

FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.3,
pp.98-99.
HB 9213

SHNEEROV. B. YA.
//FIZ KHIM MEKH MAT,//
--/--/1973, V0009, N0003
Corrosion resistance of cast iron roll
materials
pp 103-105 HB 933544



Mindyuk, A.K. et al

Effect of Inhibitors and Anions, Singly or
Jointly, on the Hydrogenation of Steel Under
Conditions of Sulfuric Acid Corrosion at Ele-
vated Temperatures.
FIZ.-KHIK. NEKH. MAT., Vol.9, 1973, No.4, pp.17-
23.
USS 9180

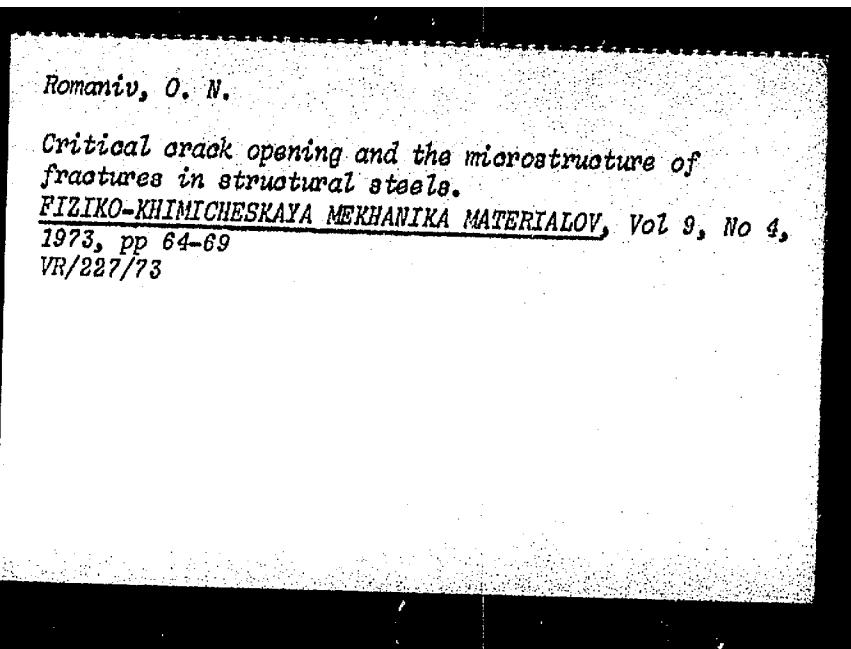
Samsonov, G.V. et al

Nature of the Microhardness of Surfaces Hardened by Friction.

FIZ. KHM. MEKH. MAT., Vol.9, 1973, No.4, pp.

26-30.

HB 9272



Efimova, L.A.

Effect of Electrothermal Treatment on the Fa-
tigue and Corrosion-Fatigue Strengths of Con-
structional Steel.

FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.4,
pp.110-112.
HB 9270

Bezruchko, V.P. et al

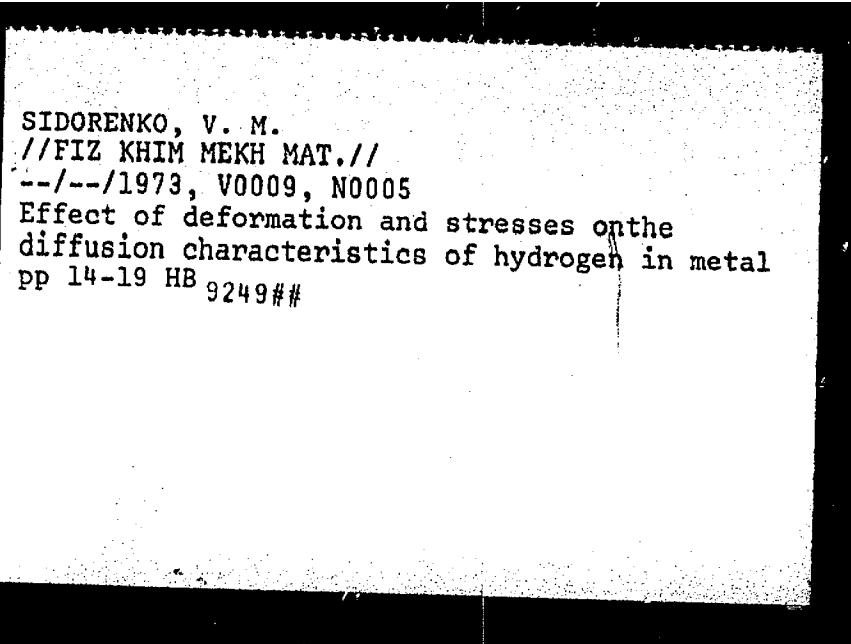
Fatigue and Contact Strength of Chromized 45
(0145% C, Low P and S) Steel.
FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.4,
pp.112-113.

HB 8407

LYASHCHENKO, A. Ye.
//FIZIKO-KHIMICHESKAYA MEKHANIKA MATERIALOV//
--/--/1973, V0008, N0005,

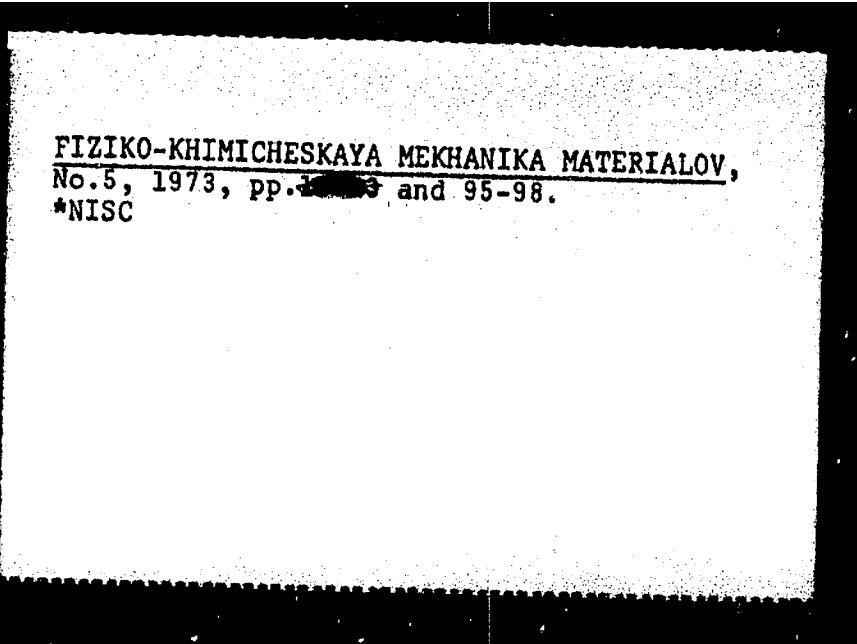
Some particular effects of cathode polarisation on
Corrosion-Fatigue strength of steel samples with notches.
5 pp.

pp 10-13, NAV/NISC-Trans 3554-7488



2
Latyshev, V.N.

Mechanism of Formation of Hydrogen Peroxide
in Cutting of Metals.
FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.5, pp.
25-27.
HB 9262



Tsarev, A.V.

Effect of Yttrium on the Physico-Mechanical
and Corrosion Characteristics of Cast Steels.
FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.5,
pp.99-100.
HB 9267

Shved, M.M. et al

Effect of Hydrogen on the Disorientation and
Breakdown of Mosaic Blocks in the Uniaxial
Stressing of Transformer Steel.
FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.5, pp.
105-106.

HB 9245

Mal'tseva, V.P.

Investigation of the Elongation of Polarized
Wire in the Presence of AZO Compounds.
FIZ. KHM. MEKH. MAT., Vol.9, 1973, No.5, pp.

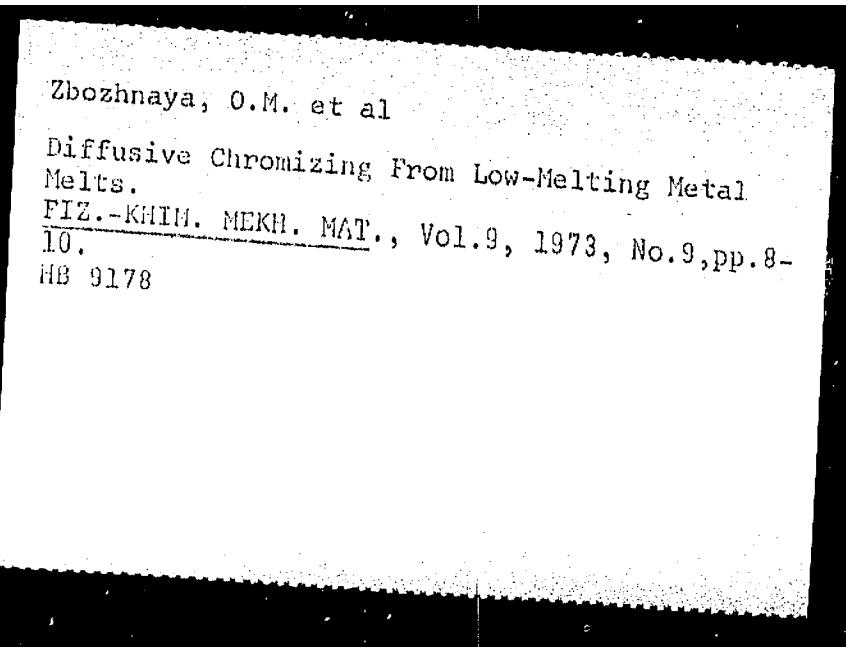
107-108.

HB XXXXX 9271

Bezruchko, V.P.

Effect of Complex Boride Coatings on the Wear
Resistance of Steel.

FIZ. KHIM. MEKH. MAT., Vol.9, 1973, No.5,
pp.109-110.
HB 9269



Fialkov, Yu.Ya. et al
FIZICHESKAYA KHMIIYA NEVODNYKH RASTVOROV
(Physical Chemistry of Nonaqueous Solutions)
Khimiya, 1973
1/2
*IPST 13 Feb 1973

July 1973

KAPORSKIY, L.N.
//FIZ. KHM. OBRAB. MATERIALOV//
--/-/1968, V----, N0001
Effect of a Q-Switched Laser Pulse on Steel, 10 pp
pp 3-10, CIA-X-7919#

Kokora, A.N.

On Certain Effects Accompanying the Action of
a Focused Q-Switched Laser Pulse on Steel.
FIZIKA I KHIMIYA OBRABOTKI MATERIALOV, No.5,
1968, pp.16-21.
NRL TRANS 1289

Kaporskii, L.N.

The Effect of a Q-Switched Laser Pulse on Steel
FIZIKA I KHIMIYA OBRABOTKI MATERIALOV, No. 1,
1969, pp.3-10.
NRL TRANS 1288

Kriventaov, A. N.

*Role of the plastic deformation of the metal in the
joint zone during explosive welding*
FIZIKA I KHIMYA OBRABOTKI MATERIALOV, n. 1, 1969,
pp. 132-141
NTC 73-12890-11F

Sedykh, V.S.

Calculation of the Energy Balance in
Explosion Welding 13 pp

FIZIKA I KHIMIYA OBRABOTKI MATERIALOV
No 2, 1970, pp 6-13

FSTC-HT-23-2049-72
ACSI-K-2599

Gal', V.V.

Spreading of Low-Melting-Point Metals on the
Surface of Copper

FIZIKA I KHM. OBRABOT. MAT. Vol 5, 1970
pp 49-54

*NTIS-TT-74-53074

BUDUEVA, V.G.
//FIZ. KIIM. OBRAB. MATER.//
--/-1971,V----,N0001
Preparation of a Copper-Tungsten Composition by
Diffusion Welding
pp 107-111, *NTIS-TT-74-5800@

Calculation of Film Heating by Laser Radiation, by
N. N. Pykalin.
FIZIKA I KHIIMIYA OBRABOTKI MATERIALOV, No 2, 1971,
pp 3-8.
NAVY/APL/JHU-T-2693

May 73

budeva, v. g.
//FIZ KHIM OBRAB MATER,/
--/--/1971, V0001, N600-,
Welding
pp 107-111, *NTIS-TT-74-58008@0

NELOL'SKII, L. A.
//FIZ KHM OBRAB MATER,//
--/-1972, V0001,N----,
Diffusion during the pressure Welding of light
alloys,
pp 114-120 *NTIS-TT-74-58005@

Silin, I. I.

State of Developments and Research Problems on the
Switching of Silicon Germanium Alloy Thermoelectric
Elements
13 pp

FIZ KHM OBRAB MATER No. 2, 1971 pp 116-125

ACSI-K-2600

FSTC-HP-23-2026-72

The Seminar on "Physics and Chemistry of Materials Processing by Concentrated Energy Fluxes, by A. Uglov, FIZIKA I KHIIMIYA OBRABOTKI MATERIALOV, No 2, 1971, pp 166-167.
NAVY/APL/JHU-T-2700

May 73

GENERAL REGULARITIES IN VARIATION OF MECHANIC
AL PROPERTIES OF METALS AND ALLOYS
complete 22 pp
IVANOVA, VS, BO LANGUAGE-RU COUNTRY-UR

FIZIKA I KHIMIYA OBRABOTKI MATERIALOV, NO 3,
1971, PP 43-53.

FSTC-HT-23-0627-74

Eremenko, V.I.

Calculation of the Kinetics of the Settling of
Point Defects at Dislocations in Copper and
Aluminum after Working at Fairly High Temperatures

FIZIKA I KHIIM. OBRABOT. MATER. No 3, 1971
pp 83-91

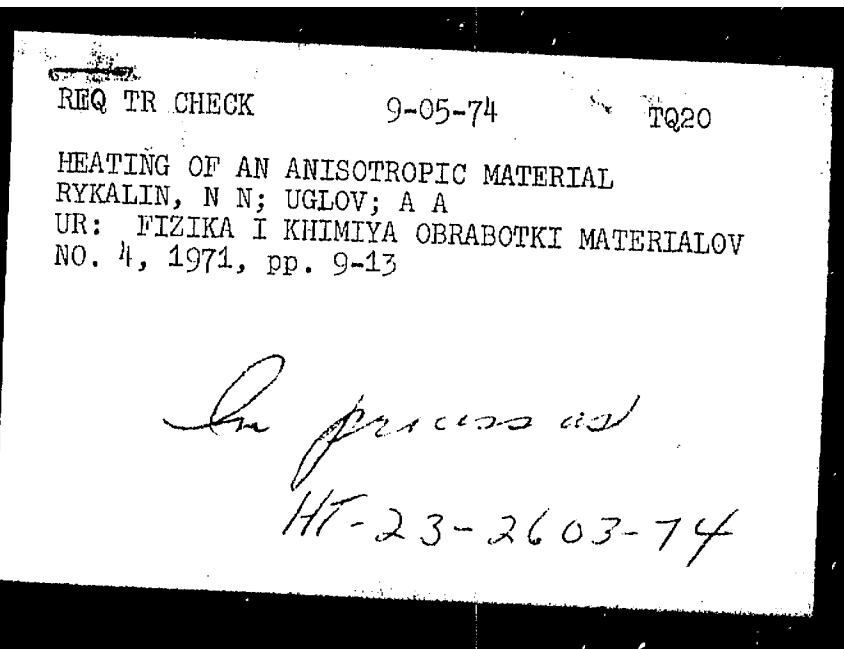
*NTIS-74-53083

Krishtal, M.A.

Mutual Diffusion in the Fe-Cu Systems

FIZ. KIIM. OBRAB. MATER., No 3, 1971, pp 109-112

*NTIS-TT-74-53082



SHASHKOV, YU. M.

//FIZIKA I KHIMIYA OBRABOTKI MATERIALOV//

--/--/1971, V----, NO004,

On the Shape of the Crystallization Interface and
Impurity Striations During the Growth of Silicon
Single-Crystals by the Czochralski Method,
PP 30-35, NPPC 74-10357-20DCG